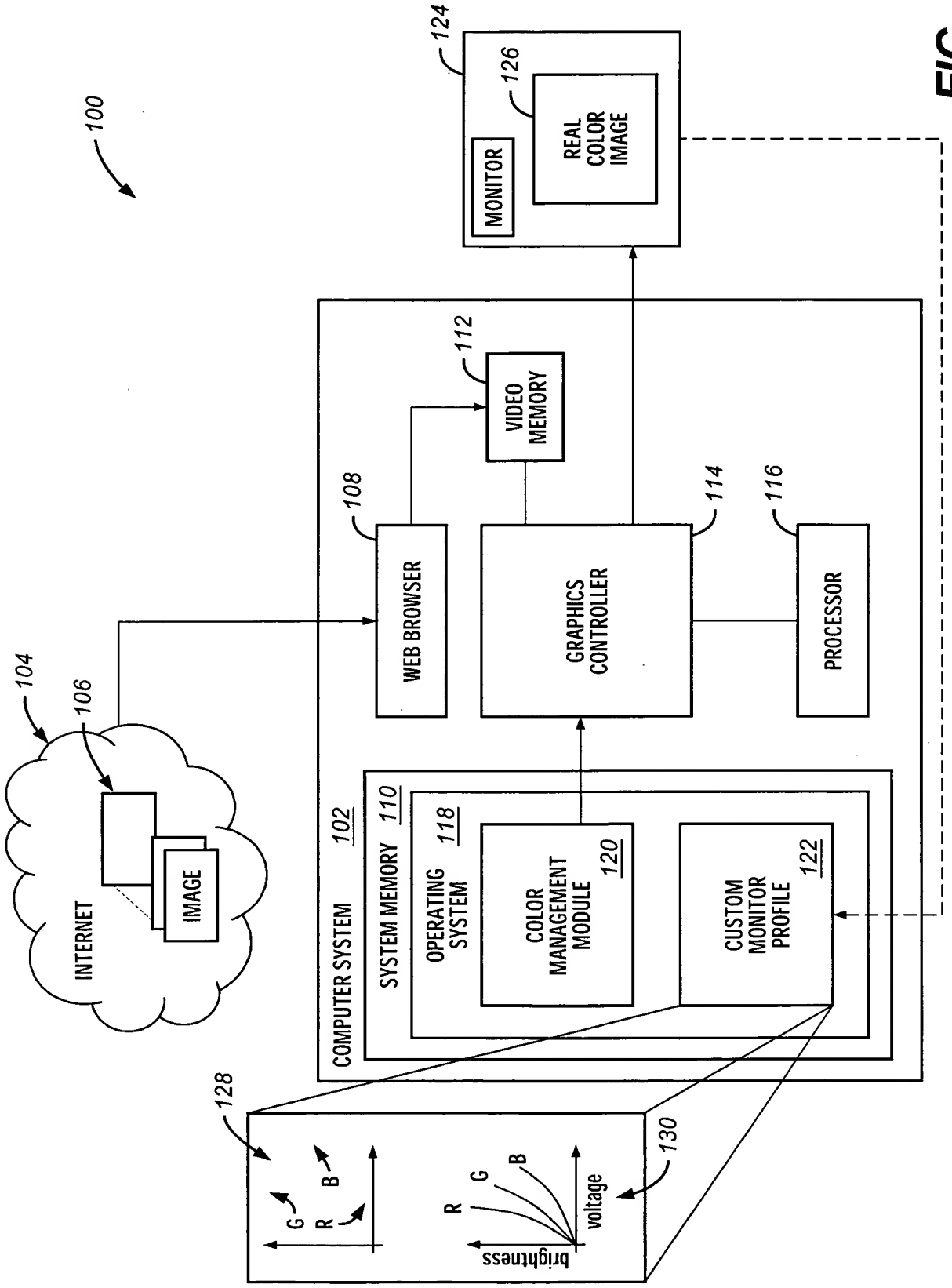
100
124
126
MONITOR
REAL COLOR IMAGE
112
VIDEO MEMORY
108
WEB BROWSER
114
GRAPHICS CONTROLLER
116
PROCESSOR
104
106
INTERNET
IMAGE
COMPUTER SYSTEM 102
SYSTEM MEMORY 110
OPERATING SYSTEM 118
COLOR MANAGEMENT MODULE 120
CUSTOM MONITOR PROFILE 122
128
130
R
G
B
voltage
brightness

FIG. 1

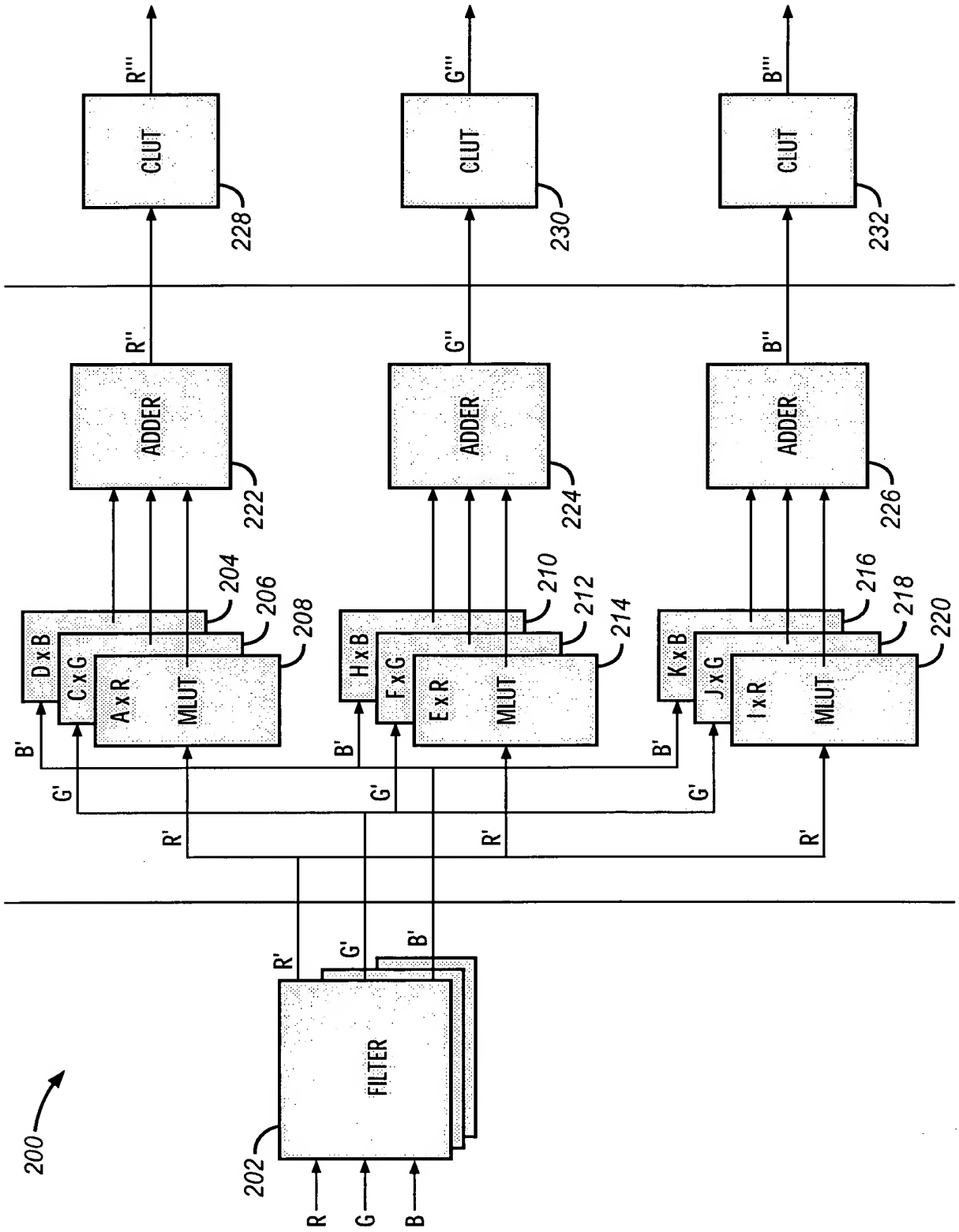
200
FILTER
202
R
G
B
R'
G'
B'
MLUT
A x R
C x G
D x B
204
206
208
ADDER
222
R''
CLUT
228
R'''
MLUT
E x R
F x G
H x B
210
212
214
ADDER
224
G''
CLUT
230
G'''
MLUT
I x R
J x G
K x B
216
218
220
ADDER
226
B''
CLUT
232
B'''

FIG. 2

$$\begin{bmatrix} R'' \\ G'' \\ B'' \end{bmatrix} = \begin{bmatrix} A & C & D \\ E & F & H \\ I & J & K \end{bmatrix} \begin{bmatrix} R' \\ G' \\ B' \end{bmatrix}$$

FIG. 3

$$R'' = (A \times R') + (C \times G') + (D \times B')$$
$$G'' = (E \times R') + (F \times G') + (H \times B')$$
$$B'' = (I \times R') + (J \times G') + (K \times B')$$

FIG. 4

R	0	0	0	0	0	0	0	0	0	0	50	100	150	200	250	502
G	50	100	150	200	250	0	0	0	0	0	0	0	0	0	0	
B	0	0	0	0	0	50	100	150	200	250	0	0	0	0	0	
R'	0	0	0	0	0	0	0	0	0	0	11	39	86	154	245	504
G'	11	39	86	154	245	0	0	0	0	0	0	0	0	0	0	
B'	0	0	0	0	0	11	39	86	154	245	0	0	0	0	0	
R''	2	5	11	20	31	1	2	4	7	11	12	42	94	168	267	506
G''	10	37	83	149	236	0	0	−1	−2	−3	0	0	1	1	1	
B''	0	−1	−3	−6	−10	9	34	75	134	213	0	0	−1	−2	−3	
R'''	1	22	39	62	84	1	2	18	30	43	46	91	152	201	249	508
G'''	42	90	141	191	240	0	0	0	0	0	0	0	0	0	0	
B'''	0	0	0	0	0	30	89	134	182	230	0	0	0	0	0	

FIG. 5

1.092434	.126263	0.041212
0.002396	.965119	−0.01561
−0.91221	−0.04135	0.870848

FIG. 6

TITLE: HARDWARE-BASED ACCELERATED COLOR CORRECTION FILTERING SYSTEM
INVENTORS: Henry M. D'Souza and Gokalp Bayramoglu
SERIAL NO.: 09/893,396